

Appendix D2

Executive Summary Translations: *English, French, Inuktitut*

MEADOWBANK GOLD PROJECT

**Executive Summary Translations:
2008 Management Plans and Reports**

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SECTION 1 • MANAGEMENT PLANS AND MANUALS

1.1 SPILL CONTINGENCY PLAN VERSION 1 – AUGUST 2008

This document presents the Spill Contingency Plan for the Meadowbank Mine Site, Exploration Camp and Baker Lake Facilities, which is a requirement of the Meadowbank Type A Water License No. 2AM-MEA0815 issued on June 09, 2008. Conditions applying to spill contingency include the following:

2AM-MEA0815 - Part H, Item 2: The Licensee shall submit to the Board for review, within 30 days of the approval of this Licence, a revised and consolidated Spill Contingency Plan in accordance with the Spill Contingency Planning and Reporting Regulations developed under the Environmental Protection Act (Nunavut). The revised Plan shall cover mine related activities and consolidate the existing plans for the mine site, All Weather Private Access Road and Baker Lake Marshalling Facility, taking into account the issues raised during its review.

2BE-MEA0813, Amendment 1 – Part H: As part of the approval of the above Plan, the Licensee shall submit to the Board for review within thirty (30) days of issuance of Amendment No.1, an Addendum to the Plan that takes into consideration the recommendations provided by the GN-DoE in their review of the Plan.

French Translation

Ce document présente le Plan de contingence des déversements pour le site de Meadowbank, le Camp d'Exploration et les Services de Baker Lake, qui est une condition de la licence de Type A No. 2AM-MEA0815 émis le 9 juin 2008. Les conditions s'appliquant à la contingence des déversements incluent ce qui suit :

2AM-MEA0815 – Partie H, Point 2 : Le Propriétaire de licence soumettra au Conseil pour révision, dans les 30 jours suivant l'approbation de la licence, d'un plan de contingences des déversements révisé et consolidé le Règlement de déclaration et de planifications développé sous la Loi de Protection Environnemental (Nunavut). Le Plan révisé couvrira toutes activités reliées à la mine et consolidera les plans existants pour l'emplacement de la mine, le chemin d'accès privée en tout temps et le le site d'entreposage de Baker Lake, tenant compte des points soulevés pendant la révision.

2BE – MEA0813, Amendement 1, Partie H : Faisant partie de l'approbation du Plan ci-dessus, le Propriétaire de Licence soumettra au Conseil pour révision dans les trente (30) jours suivant l'émission de l'Amendement No. 1, une révision au Plan prenant compte des recommandations fournies par le GN-DoE lors de leur révision.

1.2 WATER QUALITY AND FLOW MONITORING PLAN VERSION 1 – AUGUST 2008

The Nunavut Water Board (NWB) has issued Type A Water License 2AM-MEA0815 to Agnico-Eagle Mines Limited (AEM) for the Meadowbank Gold Project site authorizing the use of water and the disposal of waste required by mining and milling and associated uses.

AEM has prepared the following document which summarizes water quality and water flow monitoring to be conducted for the Meadowbank gold project.

This report documents the stand alone Water Quality and Flow Monitoring Plan specified under Water License 2AM-MEA0815, Part I, Item 2 and consolidates the monitoring requirements from the August 2007 Water Quality and Flow Monitoring Plan with those in the Monitoring Plan submitted under Water License 8BC-TEH0809.

Section 2 in the Plan includes an overview of the monitoring programs and mine development schedule. Specific details, including sample locations and parameters to be measured, of the compliance monitoring program are presented, along with more general guidance for the event monitoring program in Section 3. An adaptive management program is described for both regulated discharge and non-regulated discharge in Section 3 as well. Section 4 includes a summary of the QA/QC program for water quality monitoring. Requirements of the flow monitoring program are described in Section 5, and an overview of the reporting requirements in Section 6.

French Translation

Le Nunavut Water Board (NWB) a délivré la licence de Type A- 2AM-MEA0815 à Mines Agnico-Eagle Limitée (AEM) pour le Projet de Mine d'Or Meadowbank autorisant l'utilisation de l'eau et l'élimination des déchets exigé pour le minage, le traitement de minerai ou tout autres usages associés.

AEM a préparé le document suivant qui résume le contrôle de la qualité et l'écoulement d'eau pour le Projet de Mine d'Or Meadowbank.

Ce rapport documente le Plan de Surveillance de Qualité et d'Écoulement de l'Eau spécifié sous la licence 2AM-MEA0815, Partie I, Point 2 et consolide les conditions de surveillance d'août 2007 du Plan de Qualité et d'Écoulement de l'Eau avec ceux dans le Plan de Surveillance soumis sous la licence 8BC-TEH0809.

La Section 2 dans le Plan inclut une vue d'ensemble des programmes de contrôle et du programme de développement de mine. Des détails spécifiques, y compris les endroits d'échantillons et les paramètres à être mesurés, du programme de contrôle de conformité sont présentés, avec des conseils plus généraux pour le programme de contrôle d'événement dans la Section 3. Un programme adapté de gestion est également bien décrit pour les décharges réglementées et décharge non-réglementées également dans la Section 3. La Section 4 inclut un résumé du programme de QA/QC sur la surveillance de qualité de l'eau. Des conditions du programme de contrôle d'écoulement sont décrites dans la Section 5, et une vue d'ensemble des exigences du rapport dans la Section 6.

Inuktitut Translation

ᑕᑦᑭᑦ ᓄᓇᓂᓴ ᐃᑦᑕᑦᑕᑦᑕ ᑲᑎᑦᑕᑦᑕᑦ ᑕᑦᑭᑦᑕᑦ ᑕᑦᑕᑦᑕ ᐃᑦ ᑕᑦᑕᑦᑕᑦᑕᑦ ᐃᑦᑕᑦᑕᑦᑕᑦ, ᑕᑦᑕᑦ ᐃᑦᑕᑦᑕᑦ ᑕᑦᑕᑦᑕᑦᑕᑦ ᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ. ᑕᑦᑕᑦᑕ ᐃᑦᑕᑦᑕᑦᑕᑦ ᓇᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ Type A, Water License, 2AM-MEA0815. ᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ ᐃᑦᑕᑦᑕᑦ ᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ ᐃᑦᑕᑦᑕᑦᑕᑦᑕᑦ, ᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ, ᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ ᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ ᐃᑦᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ ᑕᑦᑕᑦ ᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ.

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ᑕᑦᑕᑦ ᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ ᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ ᑕᑦᑕᑦᑕ ᓇᑕᑦᑕᑦᑕᑦᑕᑦ 2AM-MEA0815, ᑕᑦᑕᑦᑕ ᓇᑕᑦᑕᑦᑕᑦᑕᑦ, Part I, Item 2, ᑕᑦᑕᑦ ᑕᑦᑕᑦᑕᑦᑕᑦ ᓇᑕᑦᑕᑦ ᓇᑕᑦᑕᑦᑕᑦᑕᑦ 8BC-TEH0809. ᑕᑦᑕᑦ ᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ ᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ ᑕᑦᑕᑦ 2007ᑦ ᐃᑦᑕᑦᑕᑦᑕᑦᑕᑦ. ᑕᑦᑕᑦ ᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ ᑕᑦᑕᑦᑕᑦᑕᑦ.

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1.3 GROUNDWATER MONITORING PLAN VERSION 1 – AUGUST 2008

This document presents the Meadowbank Mine Groundwater Monitoring Plan, a requirement of the Meadowbank Type A Water License No. 2AM-MEA0815 issued on June 09, 2008. Conditions applying to groundwater monitoring include the following:

- Part I, Condition 3: *The Licensee shall submit to the Board for approval, within thirty (30) days of License approval, a Ground Water Monitoring Plan; and,*
- Schedule 1, Table 2: annual monitoring of groundwater quality at well locations that are to be determined.

This Plan also supports Condition 8 of the Meadowbank Project Certificate No. 004, issued by the Nunavut Impact Review Board (NIRB) on December 30, 2006, which requires defective monitoring wells to be replaced.

French Translation

Ce document présente le Plan de Surveillance d'Eaux Souterraines de Mine Meadowbank, une condition de la licence de Type A no. 2AM-MEA0815 remis le 9 juin 2008. Des conditions s'appliquant à la surveillance d'eaux souterraines et incluant ce qui suit :

- *A plan or schedule for periodic auditing of the segregation system.*

This updated version of the Operational ARD/ML Sampling and Testing Plan was developed by Agnico-Eagle Mines Limited – Meadowbank Division staff in July of 2008 in concordance with the above water license requirement. It is under review pending approval by the Nunavut Water Board.

French Translation

Le projet Meadowbank opère sous la licence 2AM-MEA0815 émis par le Nunavut Water Board le 9 juin 2008 et signé à son entrée en vigueur par le Ministre des Affaires Indiennes et Nordiques du Canada le 10 juillet 2008. Partie I – Point 14 (page 22) de cette licence requière la mise à jour suivante d'août 2007 – ARD-ML, Plan Opérationnel de Prélèvement et d'Essai.

Le propriétaire de la licence soumettra au Conseil pour approbation, moins de trente (30) jours suivant l'approbation du permis, la version révisée ARD/ML – Plan Opérationnel de Prélèvement et d'Essai. Le plan inclura :

- Un système détaillé de prélèvement, d'analyse et de séparation de la roche et du mort-terrain incorporant des critères conservateurs où il y a incertitude quant au caractère du matériel pour s'assurer que le matériel problématique n'est pas incorporé aux structures sensibles pour l'environnement prévu pour lors de la construction;
- Des analyses pour établir une corrélation entre la concentration en métaux et le taux de lixiviation; et
- Un plan ou une cédule pour une vérification périodique du système de séparation.

Cette version mise à jour du ARD/ML, Plan Opérationnel de Prélèvement et Essai, a été développée par Les Mines Agnico-Eagle Limitée – Le personnel cadre de la Division Meadowbank, en juillet 2008 et en accord avec les conditions de la licence ci-haut mentionné. Cette dernière est présentement en révision et en attente d'approbation par le Nunavut Water Board.

Inuktitut Translation

[illegible][illegible]

- [illegible]

[illegible]

Agnico-Eagle Mines Limited (AEM) is pleased to submit this water quality monitoring and management plan for dike construction and dewatering at the Meadowbank mine site from mid-2008 to early 2009. The plan has been prepared on behalf of AEM by the Azimuth Consulting Group Inc. (Azimuth).

Water quality monitoring will include several parameters but total suspended sediments (TSS) and turbidity will be the major driver of management actions during construction and dewatering.

This memo includes the following components:

- Review of key literature regarding effects of suspended sediment (**Section 2**)
- Review and discussion of existing guidelines for suspended sediment (**Section 3**)
- Present suspended sediment triggers for protection of fish and fish habitat at Meadowbank (**Section 4 and Appendix A**)
- Water quality monitoring and management plan for dike construction (**Section 5**)
- Water quality monitoring and management plan for dewatering (**Section 6**)
- References (**Section 7**)

The monitoring and management plans are detailed and should serve as operating procedures for real-time actions in the field. This revised final plan has been revised to reflect discussions with regulatory agencies and the requirements of Water Licence 2AM-MEA0815 for the Meadowbank Gold Project.

Les Mines Agnico-Eagle Limitée (AEM) est heureuse de présenter ce plan de surveillance et de gestion de qualité de l'eau pour la construction des digues et du dénoyage de la Mine

La surveillance de qualité de l'eau inclura plusieurs paramètres mais tous les matières en suspension (TSS) et la turbidité seront le conducteur principal des actions de gestion pendant la construction et le dénoyage.

Cette note inclut les composants suivants:

- Révision de la littérature principale concernant les effets des matières en suspension (Section 3).
- Révision et discussions des directives existantes sur les matières en suspension (Section 3)
- Critère pour les matières en suspension pour la protection des poissons et de l'habitat de poisson du site Meadowbank (Section 4 et Annexe A).
- Surveillance de qualité de l'eau et plan de gestion pour la construction de digue (Section 5).
- Surveillance de qualité de l'eau et plan de gestion pour le dénoyage (Section 6).
- Références (Section 7).

Les plans de surveillance et de gestion sont détaillés et devraient servir de procédures opérationnelles aux actions en temps réel dans le domaine. Ce plan final révisé a été mis à jour pour refléter des discussions avec les autorités réglementaire et les conditions de la licence 2AM-MEA0815 pour le Projet de Mine d'Or Meadowbank.

[illegible][illegible][illegible]

- [illegible]

incinerator is a dual chamber, high temperature incinerator to dispose of solid waste from the accommodation camp, kitchen, shops, and offices that cannot be landfilled. The materials to be incinerated will be limited to putrescible waste such as paper, wood, food packaging and food waste. Filtered sewage treatment plant sludge may be incinerated during the construction phase. Sewage sludge will be co-disposed with mill tailings solids into the tailings impoundment area (TIA) once the mill is operational. In the interim AEM will attempt to drum or bag sewage sludge and store it until the TIA becomes operational at which time it will be disposed of in the TIA. If this strategy is untenable (due to odour) then this sludge will be incinerated.

A series of small waste oil burners will be used for the disposal of used petroleum products such as heavy lubricants and engine oil. Ash produced from the incineration process will be disposed of in the on-site landfills. A protocol for testing incinerator ash and contingent measures for alternate disposal of ash if quality is unsuitable for landfilling.

AEM has purchased an incinerator from Eco Waste Solutions that complies with applicable regulations. The incinerator is designed to achieve compliance immediately upon attaining normal full scale operation. In addition to the incinerator technology, the implementation of a waste management and segregation plan will limit emissions of dioxins and furans from the incinerator. Compliance to the performance limits will be confirmed by periodic stack testing (annual).

In order to demonstrate compliance with performance limits, an annual incineration management report will be prepared and submitted to the NWB (as part of the water license annual report), Government of Nunavut (GN), Environment Canada (EC), and NIRB. The quantity and type of materials incinerated on site during operations, together with results from stack emission and ash monitoring, will be included within the annual report. This IWMP will be maintained by AEM to reflect the current operations at the Meadowbank Gold Project, permit requirements and regulatory setting. The IWMP will be reviewed annually and an updated version will be produced by AEM every two years of operation at a minimum.

French Translation

Le Plan de gestion des déchets de l'incinérateur (IWMP) décrit les limites de performance, les plans de gestion des déchets, l'opération, le suivi et les exigences d'archivage des données pour l'incinérateur, faisant partie du projet Meadowbank d'Agnico-Eagle Mines Ltd au Nunavut. Ce plan avait été initialement développé en support à la demande d'Agnico-Eagle pour obtenir une licence de Type A du Nunavut Water Board. Cette mise à jour du Plan s'insère dans le système de gestion de l'Environnement Meadowbank. Le Plan sera renouvelé annuellement par AEM et mis à jour selon les besoins afin d'assurer que l'expérience du site soit communiquée à toutes les parties.

L'objectif principal de la gestion des déchets de l'incinérateur primaire et de la fourniture des huiles usées est de réduire le volume de déchets incinérés par l'implantation d'un programme efficace de sélection des déchets pour assurer que seuls les types de déchets appropriés soient brûlés. L'objectif premier de l'incinération est d'éliminer du site d'enfouissement les matériaux qui pourraient produire des odeurs attirant ainsi les animaux

au site d'enfouissement ou au camp lui-même. L'incinérateur primaire consiste en une chambre double, un brûleur à haute température pour les déchets solides produits par le camp, la cuisine, les ateliers et les bureaux et qui ne peuvent pas être enfouis. Les matériaux à incinérer seront limités aux déchets périssables tels le papier, le bois, les emballages de nourriture et les déchets de nourriture. La boue de traitement filtrée pourra être incinérée durant la période de construction. On disposera de la boue de traitement avec des résidus miniers solides dans l'aire d'accumulation des résidus une fois le concentrateur en opération. Entretemps, AEM tentera de récolter la boue de traitement dans des barils ou des sacs et de l'emmagasiner jusqu'à ce que le TIA soit en opération. Alors, elle sera éliminée dans le TIA. Si cette façon de faire n'est pas appropriée à cause de l'odeur, alors la boue de traitement sera incinérée. Des petits brûleurs pour huiles usées seront utilisés pour éliminer les produits pétroliers usés tels les lubrifiants lourds et huiles à moteur. Un protocole pour tester les cendres ainsi que des mesures éventuelles seront mises sur pied pour trouver une solution alternative si les cendres ne respectent pas les standards pour être envoyés au dépot.

AEM a fait l'acquisition d'un incinérateur Eco Waste Solutions qui est conforme aux règlements en vigueur. L'incinérateur est désigné pour être conforme dès le début de son opération.. En plus de la technologie de l'incinérateur, l'implantation d'une gestion des déchets et un plan de ségrégation des déchets limiteront l'émission de dioxines et de furanes par l'incinérateur.

Afin de démontrer la conformité avec les limites de performance, un rapport annuel de la gestion de l'incinérateur sera préparé et soumis au NWB (intégré dans le rapport annuel du de la licence), au Gouvernement du Nunavut (GN), à Environnement Canada (EC) et au NIRB). La quantité ainsi que le type de matériaux incinérés sur le site durant les opérations ainsi que les résultats des émissions à la cheminée et le contrôle des cendres seront inclus dans le rapport annuel. Le plan de gestion des déchets de l'incinérateur sera maintenu par AEM pour donner un aperçu des opérations courantes au projet Meadowbank, des obligations de la licence et des règlements en vigueur. Le Plan sera révisé annuellement et une version mise à jour sera produite par AEM à chaque deux ans d'opération au minimum.

Inuktitut Translation

[illegible]

$\text{CL}_q \triangleleft^b \text{CdCn}\sigma^{qb} \triangleleft^b \sigma d \Delta d \wedge \text{Cn} \triangleleft_{\text{NL}} \triangleleft^b \triangleright \triangleright^b \text{Cn} \triangleleft^b \delta^{qb} \text{Cb} \neg^c \triangleleft^b \text{Cn}^q \text{e}^{qb} \rangle \Gamma$ $\text{ma} \triangleright \Gamma.$

[illegible]Type A, Water License. $C_L \prec^b C_d \sigma^b$
$$\Delta d \Delta c^b \rho^c \sigma^b < \rho^a J C \triangleright \rho^L \rho^b \triangleright \rho^a \Delta C^c \triangleleft \rho^a \rho^b \Delta^b C^b \triangleright^b, \triangleleft C^c \triangleright \sigma \triangleright \triangleleft \rho^a \rho^c \rho^b \sigma^a J^c$$

$\langle \psi | \hat{C} | \psi \rangle = \langle \psi | \hat{C} | \psi \rangle$. $\langle \psi | \hat{C} | \psi \rangle = \langle \psi | \hat{C} | \psi \rangle$ $\langle \psi | \hat{C} | \psi \rangle = \langle \psi | \hat{C} | \psi \rangle$.

$$\triangleleft^b C d \sigma^b \quad \Delta d \triangleleft^b C \cap^c \rho \sigma^b \quad \wedge c \neg \neg (C \supset \triangleleft^c) \sigma^b \quad \triangleleft^b C d^b \supset \triangleleft^c d^a \rho \supset J \quad \Delta d \triangleleft^b C \cap (C \supset \triangleleft^c) \sigma^b.$$
$$\langle \tau_{\alpha} J C \rangle \rightarrow \langle \tau_{\alpha} \Gamma \tau_{\beta}^b \rangle \rightarrow \langle \tau_{\beta}^b \Gamma \Delta^C \rangle \rightarrow \langle \tau_{\alpha} \Gamma \tau_{\beta}^b \rangle^C \rightarrow \Delta d \Delta e^b \Pi \sigma^a \mu^c. \quad \rho \Gamma \Delta \sigma \rightarrow C \Delta d \Delta \rightarrow \Delta^b C d^C$$
$$\Delta d \triangleleft_c {}^b \Pi C \triangleright \triangleleft_a {}^c {}^c \quad {}^b \Pi {}^b \rho {}^c \triangleright {}^c \quad C L_a \quad < {}^c_a J C \triangleright \triangleleft {}^b.$$
$$\Delta d \triangleleft_{\mathcal{L}^b \cap \mathcal{C} \triangleright \mathcal{L}^b \mathcal{A}^c} \mathcal{L} d \triangleleft, \quad \sigma^c \rho \wedge \sigma^c \quad \Delta J \mathcal{A} \triangleright \mathcal{A}^b \mathcal{C}, \quad \mathcal{C} \mathcal{L} d \triangleleft \quad \sigma^c \mathcal{L} \cap \sigma^b \quad \mathcal{A} \mathcal{L} \triangleleft^a J \mathcal{L}^b \mathcal{A}^c \mathcal{C}.$$
$$\triangle^b C d \sigma^b \quad \triangle d \triangle_c \gamma^c \Lambda^b \quad \triangleright \triangle \triangleright \triangle^c \quad \triangle d \triangle_c^b \cap C \triangleright \sigma^b \quad \text{and } J \gamma^c \gamma^b \gamma^b, \quad \triangle^b C d \sigma^b \quad \triangle d \triangle_c \gamma^c \Lambda^b \quad L \sigma^b$$
$$\Delta d \Delta c^c \Delta a^b \quad \Delta \Delta \Delta \sigma. \quad \Delta \Delta \Delta \Delta \Delta^c$$

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The leachate from the landfills is anticipated to be very weak (dilute) due to the controls on materials placed in the landfill, and thus specific leachate management is not considered to be required. Any leachate will report to the Portage Rock Storage Facility contact water collection system.

During operations, the slopes of the landfills will be covered with rockfill, thus protecting them from erosion. Additional surface water and erosion control measures from the Mine Waste and Water Management Plan (MMC, 2007a) (e.g., diversion ditches) will be incorporated into landfill design, as appropriate.

At the end of mine life, the landfill waste will be covered by 0.3 to 1 m thickness of rockfill, with an additional 4 m thickness of coarse acid-buffering ultramafic waste rock material. The final landfill slopes will be up to 50%. Drainage water will be managed under the Mine Waste and Water Management Plan (MMC, 2007a).

To meet NWB guidelines, an environmental overview effects assessment was conducted to characterize environmental resources and determine the anticipated environmental effects of the landfills. The primary potential environmental effects from landfill activities included leachate generation, windblown debris and habitat (vegetation) loss. Given the effective implementation of mitigation plans, no residual environmental effects to valued ecosystem components from construction, operation or closure of the landfills are anticipated.

French Translation

Ce plan de gestion de conception du site d'enfouissement des déchets décrit le plan de conception, d'opération et de fermeture pour deux site industriel d'enfouissement des déchets faisant partie du projet de Mine d'Or Meadowbank au Nunavut de Mines Agnico-Eagle Limitée (AEM).

Ce plan a été développé en appui à la demande de la licence de Type A auprès du Nunavut Water Board (NWB) pour opérer le Projet de Mine d'Or Meadowbank. Les sites d'enfouissement sont requis pour l'élimination des déchets solides non-rebutables et non-dangereux venant d'activités d'exploitation qui ne peuvent pas être incinérés. Ils seront construits sur ou près du site de la halde à stérile Portage situé sur l'emplacement de la mine. Le camp s'attend à recevoir 344 personnes pendant les opérations, mais pour être conservateur, la capacité totale des sites d'enfouissement est présumée être l'équivalent aux exigences demandé pour une capacité de 500 personnes. Les sites d'enfouissement auront une durée de vie de 11 ans (l'équivalent de 500 m³ de déchets) permettant une durée de deux années de développement pré-mine, huit ans d'opération de mine et un an pour les activités de fermeture.

La lixiviation provenant des remblais est prévu être très faible (dilué) dû au contrôle du matériel placé dans le site d'enfouissement, et ainsi la gestion spécifique de la lixiviation n'est pas considéré comme requise. Toute lixiviation sera rapportée au Portage Rock Storage Facility, contact du système de collection d'eau.

Pendant les opérations, les pentes des sites d'enfouissement seront couvertes de remblai de roches, de ce fait les protégeant de l'érosion. L'eau de surface et les mesures de contrôle d'érosion additionnelle du Plan de Gestion de l'Eau et de Déchets (MMC, 2007a) (e.g. fossés de déviation) seront incorporées à la conception du site d'enfouissement, si requis.

À la fin de la vie de la mine, le site d'enfouissement sera recouvert de 0.3 à 1 m d'épaisseur de remblai rocheux, ainsi qu'une épaisseur additionnelle de 4 m de stérile ultramafique avec un potentiel neutralisant. Les pentes finales du site d'enfouissement seront jusqu'à 50%. L'eau de drainage sera gérée selon le plan de Gestion des Déchets et de l'Eau (MMC, 2007a).

Pour rencontrer les directives du NWB, une évaluation environnementale d'effets dans son ensemble a été conduite pour caractériser les ressources environnementales et pour déterminer les effets environnementaux des sites d'enfouissement. Les effets potentiels primaires sur l'environnement provenant d'activités de remblai comprennent la génération de lixiviation, les débris soufflés par le vent et l'habitat (végétation). Étant donné l'efficacité des plans de contingence, aucun effet environnement résiduel sur les composants de l'écosystème venant de la construction, de l'opération ou fermeture des sites d'enfouissement ne sont prévus.

Inuktitut Translation

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1.9 LANDFARM DESIGN AND MANAGEMENT PLAN VERSION 1 – OCTOBER 2008

The leachate from the landfarm will be captured in sumps and pumped out regularly. The leachate will be treated in the plant site oil-water separator and the effluent will either be used in the plant circuit or discharged to the Tailings Reclaim Pond. Non-aqueous phase liquids (NAPL) will be skimmed or pumped from the separator and collected in 205 L drums. The drums will be stored within a specified hazardous materials storage area until the contents are incinerated or shipped off-site for recycling or disposal at a licensed facility. At the end of mine life and/or once all the soils have reached an acceptable level of treatment (based on the remediation guidelines from the Government of Nunavut (GN) and the Canadian Council of Ministers of the Environment (CCME)), the soils will be removed from the landfarm and the landfarm area will be reclaimed. The remediated soils will be available for progressive closure activities on site.

Le ruissellement de ce site de traitement sera collecté dans des fosses et pompé régulièrement. Le ruissellement sera traité dans un séparateur huile-eau et l'effluent sera

Inuktitut Translation

[illegible]

This report documents the stand alone Closure and Reclamation Plan for the Development Phase of the Meadowbank Gold Project, as specified under Water License 8BC-TEH0809 (Part H, Item 1); this requirement was carried over to Water License 2AM-MEA0815 in Part B, Item 1.

The purpose of this Closure and Reclamation Plan is to address how development activities at the Meadowbank Gold Project site and the resultant environmental disturbances would be reclaimed if, for some unforeseen reason, the project was halted prior to the start of mine operations.

Not covered specifically in this closure and reclamation plan is:

- The Baker Lake fuel storage facilities and marshalling area constructed within the Hamlet of Baker Lake on Commissioner's lands;
- The all weather access road between Baker Lake and the Meadowbank Project site; and
- Closure and reclamation activities associated with the operations phase of the mine.

These phases of the project are covered under separate, previously submitted, closure and reclamation plans. However, these previously submitted plans are appended to this document in order to amalgamate all of the closure and reclamation plans for the Meadowbank project into one document. An 'Interim Closure and Reclamation Plan', prepared in accordance with the Mine Site Reclamation Guidelines for the Northwest Territories (2007) and consistent with the INAC Mine Site Reclamation Policy for Nunavut (2002), shall be completed within 6 months of the start of mining operations, as required under Water License 2AM-MEA0815, Part J, Item 1. The interim closure and reclamation plan will be a comprehensive plan for the project, and will supersede all previously submitted closure and reclamation plans for the various phases of the project.

French Translation

Le Nunavut Water Board (NWB) a émis une licence de Type A (2AM-MEA0815) à Agnico-Eagle pour le projet Meadowbank, l'autorisant à utiliser l'eau et à disposer des déchets tel que requis par l'opération de la mine et du concentrateur et services connexes.

Ce rapport fait état du plan de fermeture pour la Phase de développement du projet Meadowbank, tel que spécifié dans la licence de 8BC-TEH0809 (partie H, item 1); cet exigence a été transféré dans la licence de Type A 2AM-MEA0815 (partie B, item 1).

L'objectif de ce plan de fermeture est de mettre en lumière la façon dont les activités de développement du projet Meadowbank ainsi que les impacts environnementaux qui en découlent seraient restaurés, s'il arrivait que, pour une raison imprévue, le projet soit arrêté avant le début des opérations de la mine.

Non spécifiquement couverts dans ce plan sont :

- Les réservoirs de produits pétroliers et le site d'entreposage construits dans les limites de Baker Lake sur les terres du gouvernement du Nunavut;
- La route d'accès entre Baker Lake et le site de Meadowbank; et
- Les activités de fermeture associées avec la phase des opérations de la mine

Inuktitut Translation

CLae eΔHy eHyDnCyf 2AM-MEA0815, Part J, Item 1. CLae DdAeσeLf C^eJCD^eL^e
ΛC^eAeL^eDnJ ADeσ^ebDσA^eC^e, ADeP^eC^eA^eP^e P^eσ^ef nncσd.

1.11 WASTE ROCK AND WATER MANAGEMENT PLAN - JULY 2008

This report presents the Waste and Water Management Plan for the pre-development work at the Meadowbank site. The mine pre-development activities will involve the construction and operation of a 200 person camp, set up and operation of a sewage treatment plant and a batch concrete plant, operation of Tear Drop Lake as a storm water management pond, predevelopment stripping and stockpiling of overburden, the initial drilling and blasting of rock, and the construction and maintenance of access roads, as licensed under Type B water license 8BC-TEH0809. The pre-development work will occur during the spring of 2008 (late April thru July). Given the short 'open water' construction season in Nunavut, the objective is to prepare the Meadowbank camp and create a stockpile of suitable dike construction material in the second quarter of 2008 so that construction of the East Dike can commence as soon as possible after the Type A water License is approved by the Minister of Indian and Northern Affairs. The accelerated schedule is to prevent the Meadowbank Gold Project slipping by one year which could occur if the East Dike cannot be fully constructed in the summer of 2008.

This Waste and Water Management Plan supercedes previous management plans and will be implemented effective immediately (July 2008) subject to any modifications proposed by the Nunavut Water Board as a result of their review and approval process.

French Translation

Ce rapport présente le Plan de Gestion de l'Eau et des Déchets pour les travaux de pré-développement sur le site de Meadowbank. Les activités de pré-développement de la mine comporteront la construction et l'exploitation d'un camp pour 200 personnes, l'installation et l'opération d'une usine de traitement des eaux usées et une usine à ciment, l'opération du Tear Drop Lake comme bassin de rétention de l'eau de précipitation, l'extraction et le stockage de minerai en surcharge de pré-développement; le forage et le sautage des roches et l'entretien des voies d'accès, tel qu'autorisé sous la licence de Type B 8BC-TEH0809. Les travaux de pré-développement auront lieu pendant le printemps 2008 (fin avril jusqu'en juillet). Étant donné la courte saison de construction au Nunavut, l'objectif est de préparer le camp de Meadowbank et créer une réserve de matériaux appropriés de construction de digues dans le deuxième trimestre de 2008 de sorte que la construction de la digue East Dike puisse débuter aussitôt que possible dès que la Licence de l'Eau - Type A est approuvée par le Ministre des Affaires Indiennes et Nordiques. La cédule accélérée est d'empêcher que le Projet de Mine d'Or Meadowbank soit reporté d'un an, ce qui pourrait se produire si la digue ne pas être entièrement construite à l'été 2008.

Ce Plan de Gestion des Déchets et de l'Eau remplace le précédent plan de gestion et sera mis en application immédiatement (juillet 2008) et sujet à toutes modifications proposées par le Nunavut Water Board après le processus de revue et d'approbation.

SECTION 2 • 2008 REPORTS

2.1 2008 GROUNDWATER MONITORING REPORT

This document provides a summary of the 2008 groundwater monitoring program carried out at the Meadowbank Mine site including a description of the new monitoring well installations, and presentation of water quality results from sampling conducted in 2008. Completion of the groundwater monitoring program is a condition of the Meadowbank Project Certificate No.004 issued by the Nunavut Impact Review Board (NIRB) in December 2006 and of the Water License No.2AM-MEA0815 issued by the Nunavut Water Board (NWB) on June 09, 2008.

Table 2 of Schedule I of the Meadowbank Water License states that the groundwater must be monitored annually for Group 3 chemical parameters which, per Table 1 include: pH, turbidity, alkalinity, hardness, ammonia nitrogen, nitrate, nitrite, chloride, fluoride, sulphides, total dissolved solids (TDS), total and free cyanide for wells in the groundwater flow path of the tailings storage facility, and the following dissolved metals: aluminum, arsenic, barium, cadmium, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, thallium and zinc

French Translation

Ce document se veut un sommaire du programme de suivi de l'eau souterraine effectué en 2008 en vigueur au site Meadowbank incluant une description des nouveaux puits et une présentation des résultats de qualité de l'eau. Le programme de suivi de l'eau est une condition essentielle du permis (Project Certificate No.004) émis par le Nunavut Impact Review Board (NIRB) en décembre 2006 et de la licence de type A (2AM-MEA0815) émis par le Nunavut Water Board (NWB) le 9 juin 2008.

Le tableau 2 de l'annexe 1 de la licence de Type A indique que l'eau doit être contrôlée annuellement en ce qui a trait aux paramètres chimiques du Group 3, qui, selon le tableau 1 inclut : pH, turbidité, alcalinité, dureté, nitrogène d'ammoniacque, nitrate, nitrite, chlore, fluorure, soufre, solides dissous (TDS), cyanure total et libre pour les puits dans le patron d'écoulement des eaux souterraines provenant de l'aire d'accumulation des résidus, et les métaux dissous suivants : aluminium, arsenic, baryum, cadmium, cuivre, fer, plomb, manganèse, mercure, molybdène, nickel, sélénium, argent, thallium et zinc.

French Translation

Agnico-Eagle Mines Limited (AEM) Meadowbank Division a demandé à Golder Associates Ltd (Golder) de conduire une inspection géotechnique annuelle de quelques-unes de leurs installations, incluant la route d'accès, les carrières, les réservoirs pétroliers à Baker Lake, le réservoir pétrolier à Meadowbank et les infrastructures de contrôle des sédiments à Meadowbank, laquelle inspection est exigé par la licence de Type A (2AM-MEA0815, Part 1, Item 12).

Selon la partie 1, Item 12 de la licence de Type A pour le projet, AEM doit s'engager à soumettre une inspection géotechnique annuelle des installations suivantes :

- La route d'accès et les routes du site (incluant les ponts, conduits et carrières);
- Les réservoirs de produits pétroliers au site Meadowbank et à Baker Lake; et
- Les bassins au site Meadowbank.

L'item 12 exige que les installations additionnelles soient inspectées, toutefois, au moment de cette inspection, ces installations n'étaient pas construites. Golder a inspecté les installations ci-haut mentionnées entre le 3 et le 8 octobre 2008.

Inuktitut Translation

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2.3 2008 AWP PAR MONITORING REPORT

This report summarizes results of the fisheries-related monitoring conducted by Azimuth Consulting Group (Azimuth) in 2008 along the All-Weather Private Access Road (AWPAR) between Baker Lake and the Meadowbank Project. The work was conducted on behalf of Agnico-Eagle Mines (AEM) to meet the requirements of the DFO *Fisheries Act* Authorization (S-08/09-1040-NU) that primarily targets stream crossings where bridge abutments encroached into stream channels. In such cases, these installations caused a 'harmful alteration, disruption or destruction of fish habitat', or HADD. Azimuth has been monitoring movements of fish along the AWP AR route since 2005. Since construction of the AWP AR started in 2007, monitoring, as per the requirements of the Authorization, has focused on determining whether Arctic grayling movements or migrations have been constrained by any of the HADD bridges and on collecting baseline information on Arctic grayling spawning productivity at Bridge R02, in advance of constructing habitat compensation.

The DFO authorization for AWP AR requires that the following components be addressed by field studies during spring migrations by fish:

- Fish passage past bridges
- Success of compensation features
- Catch results from a creel survey

Stability of crossing structures (i.e., bridges and culverts) and the future habitat compensation feature is the purview of AEM and is reported separately.

Fish Passage

AWPAR monitoring was carried out using hoop nets at R02, R06, R09 and R15 between June 18 and July 16, 2008. R19, which was initially a HADD bridge, due to road realignment was constructed without encroaching into the stream; only discharge data were collected here. In total, 184 Arctic grayling were captured, most moving upstream (141), with small numbers of lake trout (8 fish) and round whitefish (4 fish) captured incidentally. Although hoop nets were installed earlier than in previous years, because larval Arctic grayling were captured shortly after drift nets were set, we assumed that the majority of the upstream migration by Arctic grayling may have been missed. Only a portion of the fish captured were ripe, as most were immature or spent. Although early and rapid snowmelt caused streams to open earlier in 2008, high runoff and ice conditions along shore prevented earlier installation of nets. The majority of movements by Arctic grayling probably occurred under ice. Hoop nets were removed in mid-July when downstream movements by fish became rare or absent, or physical barriers up- or downstream of R02, R06 and R15 because of low water levels.

Maximum stream velocities measured along the AWP AR were less than 1.48 m/s at all crossings and diminished rapidly through the spring. Although discharge velocities may have been higher earlier in spring, the short distance to navigate the stream under the bridge combined with relatively low velocity near the bottom and the sides of the channel

is well within the swimming ability of Arctic grayling, thus movements and migrations would not be impaired by the bridge crossings at R02, R06, R09, R15, and R19. Recapture of previously marked fish from downstream traps (current year and 2007) in upstream traps also indicates that fish moved unimpeded within the stream channels and were not limited or impaired by the bridges.

Success of Compensation Features

Construction of the habitat compensation feature at R02 is scheduled for winter 2009. Monitoring work in 2008, as in 2007, targeted collecting baseline information on larval Arctic grayling production to support future assessments of the relative success of the enhancement effort. Between June 21 and July 16, 158 larval Arctic grayling were collected in drift traps up- and downstream of the location where the compensation feature will be constructed. A similar number were captured in 2007 (170).

Larvae were first collected on June 23, coinciding with peak drift at a water temperature of 6oC. This timing confirms that Arctic grayling had migrated and spawned well in advance of installation of hoop nets. Grayling larvae had no yolk sac and were in a relatively advanced stage of development. This further suggests that mature Arctic grayling had migrated upstream and established spawning territories at R02 as early as mid-late May, prior to ice-off of the stream at water temperatures less than 4oC. This confirms early movement and spawning by grayling upstream of the bridge crossing at R02 and that adult fish had navigated past the bridge at much higher flow velocities and discharge than was measured in 2008.

Creel Survey

The 2008 creel survey results confirm that the AWPARG streams were not targeted by fishers as no fishing in the vicinity of any stream was noted. Given the use of the road for hunting, its use to access nearby lakes cannot be ruled out.

Inuktitut Translation

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Overview

Monitoring Strategy and General Study Design

- **Near-field (NF) areas** – Stations are situated in close proximity to the development, in particular near dikes and effluent sources. They are the first line of defense or early-warning locations for introductions of stressors into the receiving environment. NF stations are Third Portage North (TPN), Third Portage East (TPE), Second Portage (SP), and Wally Lake (WAL) for the Meadowbank study lakes and Baker Barge Dock (BBD) and the Baker Proposed Jetty (BPJ) for Baker Lake.

- *Far-field (FF) area* – The intent of this station is to monitor downstream of project infrastructure to provide insights into the spatial extent of any effects observed at the near-field stations. Given the natural drainage of the entire Meadowbank project area, the Tehek Lake (TE) station is a key location to assess whether or not contaminants are detectable downstream of the entire mine development.

• **Reference (Ref) areas** – Reference stations are sufficiently removed from the mine that they are presumed to be unaffected by any infrastructure (roads, dikes, runways) and point sources (aerial and aquatic) associated with mine development. Internal (Third Portage South [TPS]) and external (Inuggugayualik Lake [INUG]) reference areas were chosen for the purposes of making comparisons with the Meadowbank study lakes (BAER, 2005); For

Baker Lake, an internal reference area was added several kilometers to the east of the hamlet along the north shore of the lake at Baker Akilahaarjuk Point (BAP).

In addition to the core AEMP program, the following targeted monitoring studies were conducted in 2008:

- *Surface sediment coring* – this study is reported along with the core AEMP study in this document. It was undertaken to characterize the baseline spatial variability in metals concentrations in surface sediments (top 1 cm only) prior to the onset of in-water construction activities.
- *“Explosives” lake assessment* – this study, appended to this report, was conducted to collect basic information regarding the morphology, limnology and fisheries status of this lake, located next to the new location of the explosives plant.
- *Dike construction monitoring* – A detailed monitoring and management program for dike construction was developed as part of the Nunavut Water Board (NWB) A License process. The program was implemented for the construction of the East Dike and Western Channel Dike during open water 2008. Monitoring program results are documented in a separate report (Azimuth, 2009).
- *Total suspended solids (TSS) effects assessment strategy (EAS)* – In response to elevated TSS concentrations related to construction of the East Dike, the TSS. EAS was implemented to determine the ecological significance of the situation. This study is documented along with dike construction monitoring (Azimuth, 2009).

Meadowbank Gold Project – Development Status

Construction phase of the Meadowbank Gold Project officially started in June 2008, upon receipt of the NWB A Water License (2AM-MEA0815). The DFO *Fisheries Act* Authorization (NU-03-0191) for the project was issued on July 30, 2008 and construction of the East Dike started that day. Major in-water construction activities for 2008 included the East Dike and installation of the Western Channel Dike, located between Third Portage Lake and Second Portage Lake. The closest AEMP stations to these activities were the Second Portage Lake station (SP) and Tehek Lake (TE), further downstream.

Meadowbank Study Lakes

- Limnology results show that the lakes are generally cold, clear, isothermal, well mixed, and well oxygenated. These results are consistent among stations and seasons for 2008 and similar to historical data.
- Water chemistry results show that the lakes are circum-neutral with low conductivity, hardness and ions. Total and dissolved solids concentrations are very low and typically below detection limits. Nitrogen, carbon and phosphorus were also low, close to laboratory detection limits and did not differ appreciably within or among lakes and seasons. Total metals in water were consistently low among study lakes and seasons, with only four of 28 metals consistently above detection limits and none exceeding CCME guidelines. These

results are generally consistent with previous years and confirm their status as ultraoligotrophic lakes.

- Construction of the East Dike did result in the introduction of suspended sediments into Second Portage Lake in August and September 2008. This resulted in elevated concentrations of total suspended solids (TSS), certain nutrients and some metals (aluminum, chromium and iron exceeded CCME guidelines) in Second Portage Lake. These conditions extended to Tehek Lake in the fall sampling period, but to a lesser degree. The extent and ecological significance of the sediment introductions is assessed in greater detail in the dike construction monitoring report (Azimuth, 2009).
- Sediment chemistry results showed naturally elevated metals (primarily arsenic, cadmium, copper, chromium, and zinc, which typically exceeded CCME guidelines) at many locations. A target coring study was conducted during the spring (i.e., prior to any in-water construction activities) to improve the characterization of within-station spatial variability of metals concentrations for baseline conditions. The study focused on only the top 1 cm of sediment and will be used to help monitor whether mining activities are changing sediment quality over time. Interestingly, detectable oil & grease concentrations were found at a number of stations, including the reference areas; these results are thought to be related to natural conditions rather than hydrocarbon contamination and will be explored further in 2009.
- Primary productivity was uniformly low, as indicated by low phytoplankton biomass and low chlorophyll- α , as expected for these ultra-oligotrophic systems. Phytoplankton biomass was depressed in Second Portage Lake during summer and to a lesser degree in the fall, likely associated with the construction-related TSS introductions. This is discussed further in the dike construction monitoring report (Azimuth, 2009).
- Periphyton biomass, as expected and consistent with previous years, was quite variable among and within stations in 2008. There were some apparent patterns, with lower biomass at stations with deeper, colder water (e.g., Third Portage Lake). Several years of baseline periphyton data are available with which to compare periphyton growth on habitat compensation features. Further periphyton sampling at the AEMP stations is not needed.
- Benthic community samples were dominated by chironomid larvae in 2008, consistent with previous years. Total abundance and richness were depressed in Second Portage Lake in August 2008, likely due to construction-related sediment inputs. The extent of sediment-related impacts to benthic community did not appear to significantly affect the Tehek Lake station. This is discussed further in the dike construction monitoring report (Azimuth, 2009).

Baker Lake

- Limnology results suggest some influence of marine water at the Baker Lake stations, with fairly widespread elevated conductivity, hardness and ions relative to the Meadowbank study lakes. However, inputs from the Thelon River, which is more similar to water from the Meadowbank study lakes, seem to prevail under certain conditions (e.g., strong southerly winds). Despite some vertical differences in salinity, oxygen and temperature profiles show unstratified conditions.
- Water chemistry results show 23 of 28 metals below detection limits and all below CCME guidelines.

- Benthic community samples in Baker Lake were dominated by chironomid larvae. Total abundance and diversity at Baker Lake stations were generally higher than the Meadowbank study lakes, despite having sandier substrate.

$$\Delta^{\epsilon_b} \supset \Delta^{\epsilon_c} \Delta^{\epsilon_d}$$

$\Delta^{\epsilon} \bar{b}_{\perp} \Delta^{\epsilon} \sigma_{\perp} J^C$ $< q_b / L \sigma_{\perp}$ $\bar{b}_{\perp} \gg k_L \Delta^{\epsilon} \sigma_{\perp}$

[illegible][illegible]

- ‘bLσ’CΔΓ

[illegible]

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Agnico-Eagle Mines Ltd. (AEM) officially began construction of the Meadowbank Gold Project north of Baker Lake, Nunavut, in July 2008. A major component of the initial work was construction of the East Dike, which bisects Second Portage Lake. The northwest arm of the lake was to be dewatered as ultimately it will be part of the mine footprint. One of the requirements of the Department of Fisheries and Oceans (DFO) was that a fish-out program be conducted.

- **Chapter 1** - reviews the requirements of DFO and the major components of the fish-out program.
- **Chapter 2** - reports on findings related to general limnology, trophic dynamics and fish community structure.
- **Chapter 3** - reports on estimates of fish abundance and biomass from limnology and productivity data.
- **Chapter 4** - reports on estimates of fish abundance and biomass from markrecapture data, catch-per-unit-effort depletion estimators, and final removal data.

Les Mines Agnico-Eagle Limitée (AEM) ont officiellement commencé la construction du Projet de Mine d'Or Meadowbank au nord de Baker Lake, Nunavut, en juillet 2008. Un composant important de travail initial était la construction de la Digue Est, qui bissecte le Deuxième La Portage. Le bras nord-ouest du lac devait être asséché car, en fin de compte, sera le pied à terre (l'emplacement) de la mine. Une des conditions de Département de la Pêche et des Océans (DFO) était qu'un programme « un poissons dehors soit menée.

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- **Chapitre 1** - révision des conditions du DFO et les principaux composants du programme « poissons dehors ».
- **Chapitre 2** – rapports sur des résultats se rapportant à la limnologie générale, à la dynamique trophique et à la structure de la communauté des poissons.
- **Chapitre 3** – rapports sur des évaluations de l'abondance et des biomasses de poissons des données de limnologie et de productivité.
- **Chapitre 4** – rapports sur des évaluations de l'abondance et des biomasses de poissons venant des données markrepature, l'effort de réduction des prises par unité par les experts, et les données finales de déplacement.

Inuktitut Translation

[illegible]

▷▷▷▷ 2008F Δ⁶₃Δ₇Δ₈▷⁹▷⁹, C_LΔ⁶₃Δ₇Δσ⁶₈ በበኛውም ሆኖ, ሥርዓቱ
በበኛውም ሆኖ ይፈጸማል:

[illegible]

በበክረምት 2. በበክረምት ልረረምት፣ ልክልል ምዕራባዊ፣ ልክልረምት.

ՈՐԴԵՐԼՄԱՆ 3. $\Delta^{\epsilon_1}\omega^{\epsilon_2}$ ՇՐՋ, ΔL^{ϵ_1} ՆԼԻՆՄԱՆ, ՇՐՋ $\Delta^{\epsilon_1}\omega^{\epsilon_2}\Delta^{\epsilon_3}\omega^{\epsilon_4}$.

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2.6 TAILINGS STORAGE FACILITY THERMAL MONITORING REPORT

Agnico-Eagle Mines Limited (AEM) requested that Golder Associates Ltd. (Golder) undertake coupled seepage, thermal and contaminant transport analyses for the Tailings Storage Facility (TSF) as a design component of the Meadowbank Gold Project. The analyses are based on the previous modeling exercise done in 2007, but updated by coupling the thermal and seepage models, considering staged flooding of the Portage Pit, and adding a contaminant transport analysis which is semi-coupled with the seepage / thermal analysis. The modeling demonstrates that the proposed strategy for closure of the TSF is appropriate for minimizing water flux and contaminant transport from the TSF into Portage Lake. The model also indicates that the tailings will freeze and remain frozen for over 100 years after the mine closure irrespective of the impact of global warming

Les Mines Agnico-Eagle Limitée (AEM) a demandé que Golder Associés Limitée (Golder) entreprennent des analyses d'infiltration couplées de transport thermique et de contaminant pour les installations d'entreposage du parc à résidus (TSF) comme composant de conception du Projet d'Or Meadowbank. Les analyses sont basées sur l'exercice de modélisation précédent fait en 2007 mais mis à jour en associant les modèles de courant ascendant et d'infiltration, vu l'inondation étagée de la fosse Portage, et ajouter une analyse de transport de contaminant semi-couplée à l'infiltration/analyse thermique. La modélisation démontre que la stratégie proposée pour la fermeture du TSF est appropriée pour minimiser la fluctuation de l'eau et le transport de contaminant provenant du TSF vers le Lac Portage. Le modèle indique également que les résidus gèleront et demeureront congelés pendant plus de 100 ans après la fermeture de la mine, indépendamment de l'impact du réchauffement global.

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